

**TWO NEW SPECIES OF THE GENUS *MYRMECINA* CURTIS, 1829
(HYMENOPTERA: FORMICIDAE: MYRMICINAE) FROM INDIA**

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Summary. Two new species, *Myrmecina camellia* Sheela, **sp. n.** (from Assam) and *Myrmecina narendra* Sheela, **sp. n.** (from Manipur), are described and illustrated. A key to the Indian species of the genus *Myrmecina* based on worker is provided.

Key words: ants, taxonomy, new species, Assam, Manipur, North India.

С. Шила, С. И. Казми, С. Рой. Два новых вида рода *Myrmecina* Curtis, 1829 (Hymenoptera: Formicidae: Myrmecinae) из Индии // Дальневосточный энтомолог. 2020. N 403. С. 13-19.

Резюме. Из Индии описаны два новых вида муравьев: *Myrmecina camellia* Sheela, **sp. n.** из Ассам и *Myrmecina narendra* Sheela, **sp. n.** из Манипура. Приведена определительная таблица индийских видов рода *Myrmecina* по рабочим особям.

INTRODUCTION

The genus *Myrmecina* Curtis was erected based on the species *M. latreillei* in 1829. There are 56 species and a subspecies distributed in the Australian, Nearctic, Oriental and Palaearctic regions (see genus *Myrmecina* Curtis, 1829, <https://www.antweb.org/browse.do?subfamily=myrmecinae&genus=myrmecina&rank=genus>). Tiwari (1994) described two species, *M. urbanii* Tiwari and *M. vidyae* Tiwari, from Kerala that was the first authentic record of this genus from India. So far three species viz. *M. striata* Emery, *M. urbanii* and *M. vidyae* have been reported from India (Bharti *et al.*, 2014). Even though *M. pilicornis* Smith was considered as the only species existing in India before 1994, it was considered a doubtful species described based on a male from Maharashtra and Bingham considered it as a species of *Tetramorium*. Here *Myrmecina narendra* sp. n. is described from Manipur based on a single specimen from the National Zoological Collection. *Myrmecina camellia* sp. n. was collected through Winkler extraction of soil from Tocklai tea estates, Assam. The species was found wide spread through out the tea estates. The species were compared with the types of *M. vidyae* and *M. urbanii* and photographs of all four species provided along with a key to species of *Myrmecina* of India. The type specimens are deposited in the National Zoological Collections of Zoological survey of India, Kolkata (NZC, ZSIK).

MATERIAL AND METHODS

The specimens were collected through soil extraction (Winkler) and mounted on triangular cards. Most morphological observations were made with a Lieca S8 APO stereoscope and photographs were taken using Nikon SMZ 25 microscope.

Abbreviations of measurements and indices are as follows: **DPW** – Dorsal Petiole Width: maximum width of petiole in dorsal view; **ED** – Eye Diameter: Maximum eye diameter in profile; **HL** – Head Length: Head Length in facial view (Excluding mandibles); **HW** – Head Width: Head Width in facial view; **ML** – Mesosomal Length: Maximum diagonal length of mesosoma in profile; **PW** – Pronotal Width: Maximum width of pronotum in dorsal view; **SL** – Scape Length; **TL** – Total Length: Total Length in profile view; **CI** – Cephalic Index $HW/HL \times 100$; **OI** – Ocular Index: $ED/HW \times 100$; **SI** – Scape Index: $SL/HW \times 100$.

DESCRIPTIONS OF NEW TAXA

Myrmecina camellia Sheela, sp. n.

<http://zoobank.org/NomenclaturalActs/7725006A-4D2C-466F-A2D1-99A656AC5B01>

Figs 1–5

TYPE MATERIAL. Holotype – worker (Reg. No. 22921/H3), **India**: Assam, Hatikhuli Organic Tea Estate (26.5822° N, 93.4120° E), 01.XII 2016, leg. S. Roy. Paratypes: 15 workers (Reg. Nos. 22921/H3 to 22928/H3, 22934/H3 to 22941/H3), same data as holotype.

DESCRIPTION. Holotype worker. DPW – 0,42 mm, ED – 0,07 mm, HL – 0,78 mm, HW – 0,84 mm, ML – 0,9 mm, PW – 0,54 mm, SL – 0,72 mm, TL – 2,98 mm, CI – 107, OI – 8,82, SI – 86,17.

Dorsum of head mesosoma and gaster reddish brown; petiole, postpetiole and antennae light brown, mandibles and legs honey yellow; hairs abundant, long, erect and suberect; pubescence not visible. Ground sculpture finely punctate all over body; head, mesosoma, petiole and postpetiole coarsely longitudinally striate; striations on head slightly diverging posteriorly at sides; mandibles weakly striate; striations on mesosoma diverging towards anterior portion of pronotum; apical face of propodeum smooth; gaster finely punctate, opaque.

Head in full-face view, posteriorly widely emarginated; sides weakly convex; clypeus medially depressed, its anterior margin transverse; mandibles with two sharp apical teeth followed by a row of small denticles; masticatory margins curved towards basal margin in such a way that when closed, make a 'V' shaped gap in front of clypeus; antennae 12-segmented; antennal carinae short, its posterior margin not reaching level of anterior margin of eyes; scapes reaching posterior margin of head in front view.

Mesosoma in profile, weakly convex; promesonotal suture and metanotal groove absent; pronotum in dorsal view, broader anteriorly; ventral teeth on pro-sternum prominent and acute; antero-lateral corners of pro notum angular; dorsal propodeal teeth present, small and vertical; propodeal spines broad at base, long and almost straight; length of spines subequal to (in some specimens shorter than) distance between them; legs crescentic. Petiole without a well defined peduncle in front, anterior face of petiole concave and node above weakly convex; petiole broader than long, width and height subequal; post petiole broader than long, slightly broader than petiole; sub-petiolar process present, ventral tooth on postpetiole large and triangular; lateral keels visible on postpetiole in dorsal view; gaster broadly oval.

DIAGNOSIS. Worker. New species is similar to *M. raviwonghei* Jaitrong, Samung, Waengsothorn et Okido, 2019 from Thailand (Jaitrong, 2019) in the presence of three small processes at anterior clypeal margin, for the presence of petiolar and post petiolar processes, punctate gastral tergum and presence of abundant hairs on body; but it differs clearly in the presence of extended lateral keels on post petiole and the antero-lateral corners of gaster not as extended as in *M. raviwonghei*. Further new species is similar to *M. striata* Emery in presence of clypeal processes and longitudinal striations on mesosoma. But it differs from

M. striata in the gastral tergum being punctate (smooth in *M. striata*) and for presence of sub petiolar processes and lateral keels on post petiole (such processes absent on petiole and post petiole in *M. striata*).

DISTRIBUTION. India: Assam.

ETYMOLOGY. The species is named after *Camellia sinensis* (L.) Kuntze, under its roots, the species, inhabits.

REMARKS. This new species was found widely distributed through out the tea gardens, but was not appearing above soil surface as they are adapted to an underground life.



Figs 1–5. *Myrmecina camellia* Sheela, sp. n. 1 – head in full-face view; 2 – body in profile view; 3 – body in dorsal view; 4 – propodeal spines and pedicel; 5 – gaster in dorsal view.

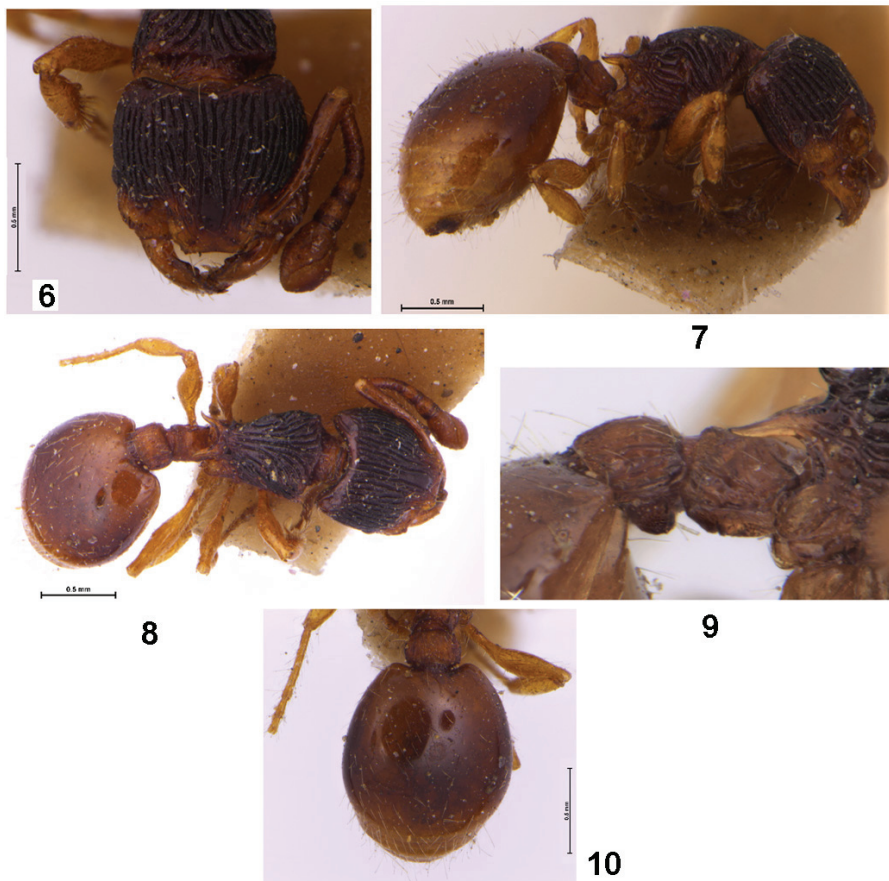
***Myrmecina narendra* Sheela, sp. n.**

<http://zoobank.org/NomenclaturalActs/28D38B59-4346-4F23-A6C6-683F685C7556>

Figs 6–10

MATERIAL. Holotype: worker (Reg. No. 22929/H3), **India:** Manipur, S Vaojans, Churachandpur, 04.IV 1992, leg. A.K. Hazra and Party.

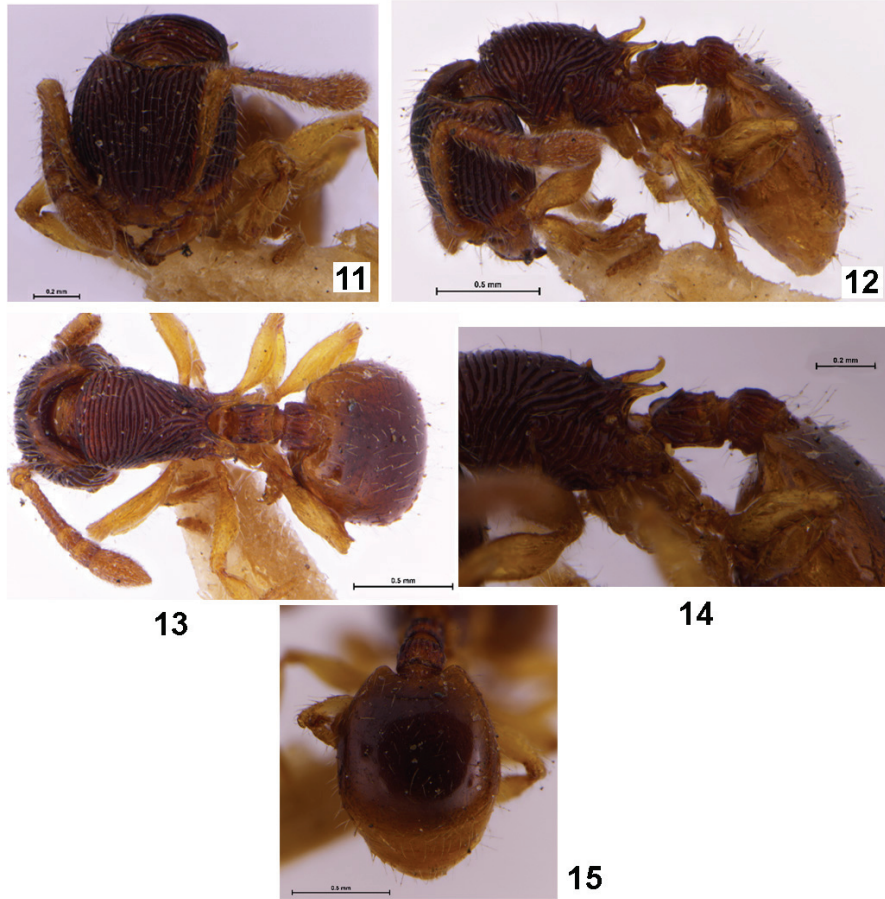
DESCRIPTION. Holotype worker. Length DPW – 0,32 mm, ED – 0,09 mm, HL – 0,84 mm, HW – 0,92 mm, ML – 0,99 mm, PW – 0,65 mm, SL – 0,82 mm, TL – 3,4 mm, CI – 109, OI – 10,24, SI – 88,64.



Figs 6–10. *Myrmecina narendra* Sheela, sp. n. 6 – head in full-face view; 7 – body in profile view; 8 – body in dorsal view; 9 – propodeal spines and pedicel; 10 – gaster in dorsal view.

Dorsum of head and mesosoma reddish brown; sides of mesosoma with yellow tint. Clypeus, mandibles, antennal hollows and its lateral parts, antennae (mostly scape) anterior collar of pronotum, propodeal spines, petiole and gaster honey yellow; legs and apex of gaster light

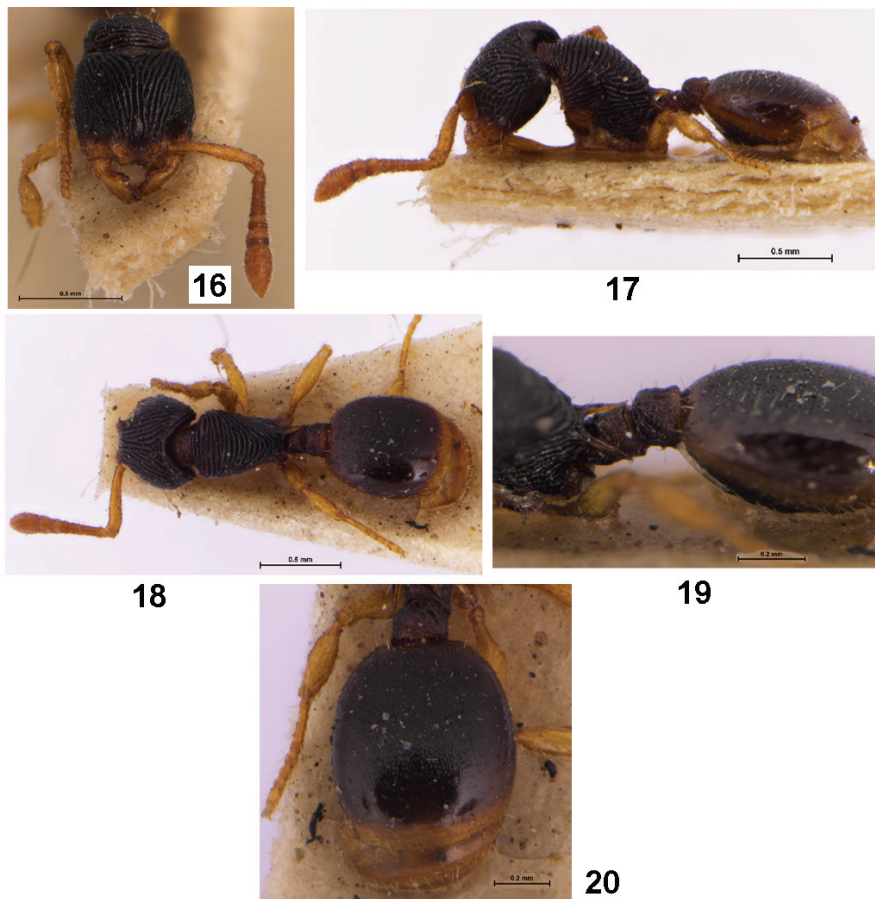
yellow; mandibles, legs, pedicel and gaster with abundant, long erect and suberect hairs; pubescence not visible. Ground sculpture finely punctate on head, mesosoma and pedicel; head, and mesosoma coarsely longitudinally striate; mandibles and pedicel with weak striations; striations on head more or less straight but on mesosoma diverging towards anterior portion of pronotum; gaster, apical face of propodeum and legs smooth, polished.



Figs 11–15. *Myrmecina urbanii* Tiwari. 11 – head in full-face view; 12 – body in profile view; 13 – body in dorsal view; 14 – propodeal spines and pedicel; 15 – gaster in dorsal view.

Head posteriorly widely emarginated and posterior margin delineated by a transverse carina, beyond which occiput smooth; sides straight; clypeus medially depressed; anterior margin transverse, mandibles with two sharp apical teeth followed by a row of small denticles; antennae 12-segmented; antennal carinae short, posterior margin extending beyond level of anterior margin of eyes; scapes almost reaching posterior margin of head in front view. Mesosoma weakly convex in profile, without sutures on dorsum; narrowing posteriorly; ventral teeth on prosternum large and acute; pronotum broad, anterolateral corners angular dorsal propodeal teeth very prominent, straight and vertical, both teeth and spines broad at

base, spines long, slightly bending outwards in lateral view; spines longer than distance in between them; legs crescentic. Petiole without a well-defined peduncle in front, node ring like; length, height and width almost equal; subpetiolar process present ventral tooth on postpetiole large and triangular, anterior face of petiole concave and nodes above weakly convex; post petiole broader than long, slightly broader than petiole; gaster broadly oval.



Figs16–20. *Myrmecina vidyae* Tiwari. 16 – head in full-face view; 17 – body in profile view; 18 – body in dorsal view; 19 – propodeal spines and pedicel, 20- gaster in dorsal view.

DIAGNOSIS. Worker. This new species is similar to *M. camellia* sp. n. in the presence of longitudinal striations on mesosoma and presence of dorsal propodeal teeth. But it differs from *M. camellia* sp. n. in the absence of clypeal processes (weak clypeal processes present in *M. camellia*), prominent dorsal propodeal teeth (dorsal propodeal teeth weak in *M. camellia*), smooth, polished gastral dorsum (punctate gastral dorsum in *M. camellia*) and lateral keels on postpetiole not well developed (lateral keels on postpetiole well developed in *M. camellia*).

ETYMOLOGY. The species is named after late Dr. T.C. Narendran, an outstanding taxonomist in Hymenopteran research in India.

DISTRIBUTION. India: Manipur.

REMARKS. The species is described based on a single worker as the three more specimens from the same collection are totally damaged. But the characters are very clear to indicate it as a new species.

Key to the Indian species of *Myrmecina* based on worker caste

1. Thorax transversely striate (Figs 3, 8) 2
 - Thorax longitudinally striate (Figs 13, 18) 3
2. Propodeal spines thin, long and curved outwards; dorsal propodeal teeth well defined; in dorsal view, anterior margin of gaster concave with sides sharply defined. (Figs 11–15) ..
 - *M. urbanii* Tiwari, 1994
 - Propodeal spines more or less straight, dorsal propodeal teeth not distinct, in dorsal view anterior margin of gaster transverse with sides not produced in front. (Figs 16–20)
 - *M. vidyae* Tiwari, 1994
3. Clypeal teeth distinct *M. striata* Emery, 1899
 - Clypeal teeth weak or absent 4
4. Dorsal propodeal teeth minute; postpetiole with prominent lateral keels; gaster punctuate
 - *M. camellia* sp. n.
 - Dorsal propodeal teeth large and prominent; lateral keels on post petiole not well developed; gaster smooth and shining *M. narendra* sp. n.

ACKNOWLEDGEMENTS

The authors are grateful to the Director of Zoological Survey of India for the encouragement and necessary facilities provided for this study. The help and support by Dr. Devanshu Gupta, Ms. Paromita Mandal, Basudev Chattopadhyay and Arnab Mandi is sincerely acknowledged here. We gratefully acknowledge the anonymous reviewer for the valuable suggestions.

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